



**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

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R.G.

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/251,582	02/16/99	GUTIERREZ	R 06618/266001

MMC1/0811

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EXAMINER

NATIVIDAD, P

ART UNIT

PAPER NUMBER

2877

6

DATE MAILED:

08/11/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

<b>Office Action Summary</b>	Application No. 09/251,582	Applicant(s) GUTIERREZ ET AL.	
	Examiner Phil Natividad	Art Unit 2877	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 June 2000.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 15-22 is/are rejected.
- 7) ☒ Claim(s) 12-14 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☒ The proposed drawing correction filed on 12 June 2000 is: a) ☒ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some \* c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) \_\_\_\_\_.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

**Attachment(s)**

- |   |  |
|---|--|
| 15) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 16) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 20) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over (either one of Hockley or Wolff, previously cited) in view of Gutierrez (previously cited). Either Wolff or Hockley teach optical interferometric measuring, with a moving sample object. Gutierrez teaches synchronizing the detectors, and modulation or pulsation of the source (column 4 lines 24-26). It would have been obvious to one of ordinary skill in the art to combine the Gutierrez teachings with those of Hockley or Wolff to obtain these claims, as recited, the motivation for which would have been to operate "despite considerable noise and independent of intensity measurements" (Gutierrez column 4 lines 56-58).

3. Acknowledgement is made of a claim for domestic priority under 35 U.S.C. 119(e).

4. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolff in view of Gutierrez. Wolff teaches optical interferometric measuring, with a movable sample and a chamber with viewport/window. Gutierrez teaches modulation or pulsation of the source (column 4 lines 24-26). It would have been obvious to one of ordinary skill in the art to combine the Gutierrez teachings with those of Wolff to obtain these claims, as recited, the motivation for which would have been advantageous operation "despite considerable noise and independent of intensity measurements" (Gutierrez column 4 lines 56-58).

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5. Claims 6-10 and 15-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hockley in view of Gutierrez, further in view of Wolff. As discussed previously, Hockley in view of Gutierrez teach interferometric measuring of a moving sample object, and the dependent claims recite obvious variations of the independent claims. As to claims 16 and 21, see Hockley column 1 line 65; and note that it is well known in the art to use a CCD and electronic processing/storage in place of a photographic emulsion camera, also to "multiple-expose" images to compare or integrate them.

As to claims 19 and 22, Hockley does not expressly disclose an evacuated enclosed sample area nor pathlength compensation, but Wolff discloses such an enclosed sample area (column 1 line 67-column 2 line 2). It would have been obvious to one of ordinary skill in the art to combine the teachings of Hockley with that of Wolff, the motivation for which would have been that possible errors from gas optical pathlength and/or "window effects... are minimized" (Wolff column 2 line 1).

As to claims 8 and 15, with the known teachings of Hockley and Wolff, it would have been an obvious variation to have only the sample arm within the enclosure, and to compensate for the viewport pathlength in the reference arm. It is well known in the art to use a plate to compensate for different pathlength to the sample.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hockley in view of Gutierrez, further in view of Dickey et al. As discussed previously, Hockley in view of Gutierrez teach the limitations of the independent claim, except without expressly disclosing a MEMS device as the sample object. However, Dickey et al. disclose optically detecting the movement of MEMS devices. It would have been obvious to one of ordinary skill in the art to

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combine these teachings of prior art to obtain all the claimed limitations, the motivation for which would have been advantageously measuring, as well as simply detecting, movement of a MEMS device.

Thus, it would have been obvious at the time of invention to modify the teachings of prior art to obtain the invention as claimed.

***Allowable Subject Matter***

7. Claims 12-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten independent of it while including all of the limitations of the base claim and any intervening claims.

The primary reason for the allowable subject matter is the inclusion of the limitation of a distance  $1/20^{\text{th}}$  of a center wavelength of the light source, which in combination with all other claim limitations is not found in the prior art references of record.

***Drawings***

8. The proposed drawing correction filed on June 12, 2000, has been approved. In order to avoid an abandonment of this application, the drawings must be corrected in accordance with the instructions set forth in Paper No. 2, mailed on February 3, 2000 (form PTO-948).

***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phil Natividad whose telephone number is 703-306-5944. The examiner can normally be reached on Tuesday-Thursday and alternating Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 703-308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

  
ROBERT H. KIM  
PRIMARY EXAMINER

Phil Natividad  
Patent Examiner  
psn  
July 31, 2000

FRANK G. FONT  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800